

Amendments to the Claims

1. (Currently Amended) A method of producing diversity-encoded spread-spectrum signals for transmission into a wireless communication channel, comprising:
generating a spread information signal,
generating a despreading signal, ~~and~~
diversity-encoding at least one of the spread information signal and the despreading signal, and
coupling the spread information signal and the despreading signal into the wireless communication channel.
2. (Previously Amended) The method of producing diversity-encoded spread-spectrum signals recited in Claim 1 wherein the despreading signal comprises a noise signal.
3. (Currently Amended) The method of producing diversity-encoded spread-spectrum signals recited in Claim 1 wherein generating a the spread information signal includes duplicating the spread information signal ~~modulating at least one of a plurality of identical wideband signals with an information signal.~~
4. (Cancelled)
5. (Previously Amended) The method of producing diversity-encoded spread-spectrum signals recited in Claim 1 wherein diversity encoding includes at least one item of a set comprising providing a time offset, polarizing, applying a predetermined directionality, transmitting from a plurality of spatially separated transmitters, modulating with a predetermined carrier frequency, combining with a carrier having a predetermined mode, and transmitting signal in at least one predetermined subspace channel.
6. (Previously Amended) The method of producing diversity-encoded spread-spectrum signals recited in Claim 1 further comprising a step of modulating the spread information signal and the despreading signal onto a carrier signal.
7. (Previously Amended) The method of producing diversity-encoded spread-spectrum signals recited in Claim 1 further comprising a step of coupling the spread information signal and the despreading signal into a communication channel.

8. (Currently Amended) A method of producing diversity-encoded spread-spectrum signals for transmission into a wireless communication channel, comprising:
 - generating at least one information-bearing wideband signal,
 - generating at least one decoding signal, ~~and~~
 - diversity-encoding at least one of the information-bearing wideband signal and the decoding signal, and
 - coupling the spread information signal and the despreading signal into the wireless communication channel.
9. (Currently Amended) The method of producing diversity-encoded spread-spectrum signals recited in Claim 8 wherein the information-bearing wideband signal includes a noise signal.
10. (Cancelled)
11. (Previously Amended) The method of producing diversity-encoded spread-spectrum signals recited in Claim 8 wherein the step of diversity encoding includes at least one item of a set including providing a time offset, polarizing, applying a predetermined directionality, transmitting from a plurality of spatially separated transmitters, modulating with a predetermined carrier frequency, combining with a carrier having a predetermined mode, and transmitting the signals in at least one predetermined subspace channel.
12. (Original) The method of producing diversity-encoded spread-spectrum signals recited in Claim 8 further comprising a step of modulating the information-bearing wideband signal and the decoding signal onto a carrier signal.
13. (Original) The method of producing diversity-encoded spread-spectrum signals recited in Claim 8 further comprising a step of coupling the information-bearing wideband signal and the decoding signal into a communication channel.
14. (Cancelled) A method of extracting information signals from a plurality of received spread-spectrum signals comprising:
 - receiving the spread-spectrum signals, at least one of the spread-spectrum signals being a diversity-encoded spread-spectrum signal,
 - decoding at least one of the diversity-encoded signals, and

correlating the decoded signal with at least one of the spread-spectrum signals to produce a correlation signal that is indicative of information encoded in the spread-spectrum signals.

15. (Cancelled) A method of extracting information signals from a plurality of received spread-spectrum signals comprising:

receiving the spread-spectrum signals and at least one spectrum-decoding signal, at least one of the spread-spectrum signals and the spectrum-decoding signal being a diversity-encoded signal,

decoding at least one of the diversity-encoded signals to provide at least one diversity-decoded signal, and

correlating the diversity-decoded signal with at least one of the spread-spectrum signals and the spectrum-decoding signal to produce a correlation signal that is indicative of information encoded in the spread-spectrum signals.

16. (Currently Amended) A spread-spectrum transmitter comprising:

a wideband-signal generator configured for generating a plurality of wideband signals, at least one of the plurality of wideband signals being designated as a despreading signal,

a modulator coupled to the wideband signal generator and configured for modulating at least one information signal onto at least one of the plurality of wideband signals for generating a spread-spectrum signal, ~~and~~

a diversity processor configured for adjusting at least one diversity parameter of at least one of the spread-spectrum signal and the decoding signal, and

a transmitter configured for coupling the spread-spectrum signal and the despreading signal into the wireless communication channel.

17. (Currently Amended) A spread-spectrum transmitter comprising:

a wideband-signal generator configured for generating a plurality of wideband signals, at least one of the plurality of wideband signals being designated as a despreading signal,

a modulator coupled to the wideband signal generator configured for modulating information onto at least one of the plurality of wideband signals for generating a spread-spectrum signal, ~~and~~

a diversity processor configured for adjusting at least one diversity parameter of at least one of the spread-spectrum signal and at least one of the plurality of wideband signals, and

a transmitter configured for coupling the spread-spectrum signal and the despread signal into the wireless communication channel.

18. (Cancelled) A spread-spectrum receiver for extracting an information signal from a plurality of spectrum-coded, diversity-coded signals, the receiver comprising:

a receiving system for receiving the spectrum-coded, diversity-coded signals,
a diversity processor coupled to the receiving system for diversity decoding at least one of the received signals to provide a plurality of signals that are highly correlated, and

a signal combiner coupled to the diversity processor for correlating or otherwise combining the plurality of highly correlated signals to generate a correlation signal indicative of the information signal.

19. (Cancelled) A spread-spectrum receiver for extracting an information signal from at least one spectrum-coded, diversity-coded signal, the receiver comprising:

a receiving system for receiving the at least one spectrum-coded, diversity-coded signal and receiving at least one despread signal, the received despread signal being separable from the at least one spectrum-coded signal,

a diversity processor coupled to the receiving system for diversity decoding at least one of the received signals to generate a plurality of signals that are highly correlated, and

a signal combiner coupled to the diversity processor for correlating or otherwise combining the plurality of highly correlated signals to generate a correlation signal indicative of the information signal.